8-4 Q-12

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Part 1

FROM: Patricia.Dolan:R01F16A / CEO
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Part 2

ARPA MESSAGE HEADER

Part 3

CEO document contents:

SALVAGE OF BURNED STANDS:
WILDLIFE CONSIDERATIONS

In the past, stands of fire-killed dead trees were common in some forest types of the Northern Rocky Mountains. Little study has been done on wildlife use of this unique habitat. We do know that (1) some species that are rare in other

habitats occur at high densities in burned stands (Black-backed Woodpeckers and some species of insects, for example) and (2) the combination of bird species found here is distinct from that in other habitats.

Currently, fire suppression and salvage logging have reduced this habitat to a small fraction of its former acreage. Given our incomplete understanding of the ecological role of burned stands, cautious forest management will include maintaining a representation of this habitat across the landscape.

In the recent past, burned stands have often been viewed only as timber going to waste. The assumption was often that the burned trees should be cut as soon as possible, unless removing the trees would cause resource damage (usually to water quality) or the stand was inaccessible (reaching it made the project uneconomical).

Now that the Forest Service has adopted an ecological approach to forest management, a different approach to decisions on "salvaging" burned timber must be adopted. Some considerations in developing a new process are given below.

1. Use of an Ecosystem Mangement Approach.

Salvage projects are similar to our other vegetation management: they are a way to get from the existing condition to a desired condition, while meeting social and economic goals.

Analysis should begin with the "coarse filter" approach. Based on our knowledge of how fire operates in the appropriate forest type, how much burned forest would be present in the analysis area today if fires had not been suppressed in the past century? This provides an estimate of the "natural range of variation." (In some fire types, you may have to use averages for very large areas, since in a small area the range may be 0-100%.) The existing level of burned stands can be compared to this value. The difference between these values provides a context for the IDT to use as it incorporates ecological, social, and economic goals in determining the desired condition.

A target for burned stands may be expressed as a rate (for example, 0.5 to 2% per decade) for each "ecosystem management area" (an analysis area of about 30,000 to 60,000 acres).

The "fine filter" level of approach (looking at individual species) should also be part of the process. The sensitive Black-backed Woodpecker probably needs burned stands for populations to remain viable. Though the species occurs in insect-infested stands and (at low density) throughout the forest, a very large proportion of reproduction occurs in burns.

The loss of snags over time has created a serious deficit of snags in many areas. The problem is especially acute in ponderosa pine, where future snag

recruitment is low because of loss of large trees. Retention of all or most of the large snags will help compensate for past losses. Though woodpecker territory size limits the number of snags occupied simultaneously, large snags will stand and provide nest sites for a long time. Retention of large western larch snags is also highly desirable.

2. Prioritization.

High priority may be assigned to salvaging dead wood that will provide fuel and increase future risk of fire in urban interface areas.

Low priority areas include those where acreage of burned stands is below the level set in the desired condition.

Other low priority areas include those that are inaccessible and would require extensive roadbuilding for salvage to occur.

2. Purpose and Need.

There is seldom an ecological reason to remove burned trees from the landscape. The objectives of most salvage sales are "social and economic," rather than biological. Ecological arguments will involve the need to leave certain trees, rather than the need to take trees.

Exceptions to this generalization may occur in areas where, prior to the fire, forest structure was atypical for the forest type. For example, in a ponderosa pine forest, fire now may leave a dense burned understory of Douglas-fir and overstory of dead pine, unlike the smaller dead understory and live pine overstory that would have occurred with frequent low-intensity fires. Removal of the understory may be desirable to reduce shade on seedlings and to reduce the subsequent risk of fire in the regenerating stand. However, in areas with low levels of burned forest in nearby forests of stand-replacement regime, the IDT may also consider the value of leaving some of the burned understory to provide habitat for Black-backed Woodpeckers and species that specialize on fire-killed trees.

3. No Action Alternative.

The ecological benefits of leaving the burned trees on-site should be summarized in the discussion of the "no action alternative."

4. Other Considerations.

When the IDT determines that there are surplus burned areas, ecological

information may help decide which trees should be taken. At this point, there are no "right answers," generalizations that apply anywhere. Ideas to consider include the following.

Salvage from a certain percentage of the area, leaving the rest intact. In areas where stand-replacing fire were the norm, leaving part of the area unsalvaged will preserve the structure characteristic of fire-killed stands. In contrast, partially salvaging the whole area would alter that structure.

Leave tree size-classes in proportion to occurrence. All sizes of burned trees have function in contributing to soil, providing nest sites, etc. Don't selectively take the large trees and leave only the small ones.

Consider the cumulative effects of planned salvage on other ownerships.

Consider the potential for similar burns in the analysis area. For example, if the drainage has been heavily cut over, so that the average stand is very young, there may be little chance that stand replacing burns will occur in the next few decades. More standing dead should be retained under these conditions than in drainages that have been less heavily cut.

Dec 1-1-18

Q-13

(P. Dolan)

My note to forest bios around the western half of the region:

I'd be interested in hearing how you are handling salvage sales, especially with reference to the Black-backed Woodpecker. Our fire suppression successes and our tendency to salvage any accessible burned stands have greatly reduced available habitat (especially since the habitat does not function for very long.) It seems that we have a huge cumulative effects problem here, and that each salvage sale removes habitat that is already very limited.

We are having trouble avoiding a "trend to federal listing" call for the BBWO in salvaging burns, unless comparable acres of fire-killed dead are being created through prescribed burns. Though there may be mountain pine beetle infestations that are occupied by BBWO's, the birds nest there at much lower density than in burns. Can we assume that occurrence (and even breeding) in this secondary habitat (or our area, anyhow) is adequate to provide long-term viability? Does this differ in wetter vs drier forest (i.e., Idaho)?

I'd like to hear what your biologists are doing. Also, would any of you be interested in a meeting/ workshop on the subject, pulling together past levels of recent fire-killed dead vs. recent levels, reports from researchers, discussion of the role of bug-killed dead, threshold for the "trend to federal listing" determination, etc.? If so, would you and your biologists be in Missoula for the RTA, and if so would that be a good time?

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Pat, I think you are asking a lot of good questions that most of us have been avoiding. Actually, we haven't done that much salvage down here, and altho BBW's are on our sensitive list, there are rather poor to no records of them actually occurring on the Forest. I expect we just haven't looked in the right places at the right times for the most part. However, I did spend a lot of time in the '88 Yellowstone burned areas post-fire and although I saw tons of woodpeckers, never saw a black-backed. I would be very interested in a session on this species and our potential impacts to it. I am not sure what the status of the RTA is and thought we may go back to have just a biologists get-together this year, but am not sure what the RO is thinking at the moment.
Marion

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Marion sent me your message. On the Big Timber District, GNF we have had only two small salvage sales in burned areas. Snags were retrained through marking reserve trees at a rate of 3-6 per acre (FP direction); I marked these snags. No new roads were constructed to access burned trees, so, harvest was restricted to established roads. This constrained harvest in both areas to less than 10% and 2% of actual burned area. It was determined that this small amount of salvage, based on the amount retained, would not impact potential fire-killed habitat for bbwo or other snag dependant species.

Currently the Gallatin, like many other Forests, is implementing a large prescribed burn program. The Gallatin's first approach to large scale prescribed burning has no scheduled timber sales, pre or post burn. The fires are a mix of underburn and stand replacement. Consequently, torched overstory trees will be retained for wildlife and nutrient recycling. Future burns, especially underburns, may be partial cut prior to burning. Incidental torching of overstory trees may occur, but these trees would not be harvested. Stand replacement burns would generally have little or no pretreatment harvest. Depending on how the fire programs future unfolds there may be more stand replacement fires. It appears that the leadership team and industry may have problems with burning timber and walking away without harvesting.

On the eastside of R1 it appears to me that Forests should be able to develop win/win programs that provide timber and wildlife habitat. I'm basically an optimist, obviously! The Forest Service needs to develop a better education program for fire and its benefits. Industry would rather harvest live or unburned timber anyway. For wildfires, the Gallatin is restricted to roaded areas. All burns located in roadless areas would be prohibited from timber harvest, at least at the present time. Jim Sparks.

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Pat, sounds like an interesting workshop, and the RTA would be a good opportunity. I guess my feeling is that we may have gotten over the hump in terms of lack of recent fire-killed habitat for BBWP because we haven't been as successful suppressing all fires the last 10 years--the acreage burned/year has accelerated pretty dramatically lately, and some of the largest fires have been in wilderness or at least inaccessible areas which we aren't salvaging. I.e., I suspect that although the amount of suitable habitat may be well below historical levels, it's well above what it's been over the past 40 years or so.

As to how we're handling salvage, I've taken Sallie Hejl out to look at some of our proposed salvage sales down here, and of course she's got a research project going looking at the effects of salvage on woodpeckers. I think we've agreed that there are some burned areas which BBWP are unlikely to occupy, so

aren't much of a concern (specifically, this summer's North Rye Fire, which was mostly well-spaced, immature PP). For most of the other fire salvage sales I've worked on the past few years, we've more-or-less followed a combination of Dick Hutto's recommendations (leaving large percentages of the burned area unsalvaged) and Vicki Saab's snag retention guidelines (which are much higher than those required by the FP) in the areas we do salvage. As a result, I've mostly felt pretty comfortable that the amount of recently burned habitat on the Bitterroot has been increasing, which leads me to conclude that we are not causing a trend towards Federal listing. But what do I know? One other point--I have no idea how nest densities compare between fire-killed and bug-killed areas, but I worked on the Deschutes NF for several years around 1990 when we were concentrating almost entirely on salvaging the thousands of acres of LPP killed by mountain pine beetles in the late 1980s. There were many days when I was out wandering around when I'd see 4-8 BBWP, and it wasn't unusual to actually find 2 active cavities in the same day. My impression was that they were doing quite well, and I've never seen those kinds of numbers in a burned area, but maybe that was an unusual occurrence. At any rate, I'm interested in the subject, so let me know if I can help. DL (Dave Lockman, Bitterroot)

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Nice to hear from you Pat. We haven't had all that many fires to salvage here on the Nez (outside of wilderness). The ones we have had, have burned elevationally through both lower and higher elevations and of course, salvage of pine and Doug fir are taking place. On the Scott Salvage sale, a very large burn, we purposefully left scorched trees which we legitimately felt would survive, particularly in pine/Doug fir sites. To our amazement, a year later, many of these "leave" green trees died and became snags and attracted a tremendous woodpecker immigration for a couple of years including some black-backs. Higher elevation areas were partly in wilderness and none of the trees were touched there. I do not know if I or any other bios from the Nez will make the Regional Traning Academy.....with downsizing our wildlife bios cadre here by 60% in the last few years, and several of us still only partially funded for 99, the prospects for time or funds for ongoing training are uncertain. Most of us feel fortunate if our salaries get funded.....other meetings, training, peripheral activities are secondary. Let us know what you come up with and have a Merry Christmas!!

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Dave L. forwarded your question to me and I've seen his reply. I have only one other comment. The PNF program in both Selway and Anaconda Pintler have and

will continue to have a beneficial affect on BBWO habitat. Much of both areas lies at higher elevations, but BBWO still seem to use fire killed trees there, thou maybe at lower densities than at lower elevations. Selway Bitterroot does have some low elevation pp forests, but not many stand replacement fires. One other thing we're trying in our lpp forests, the first attempt was in the Tolan Creek Sale, is to manage with a little sensitivity to ecological processes. In two units the objective for the harvest was to regenerate old lpp. One unit was about 120 acres the other about 80. We harvested from 40 to 6t0% of the canopy, leaving trees of all sizes. The units will be broadcast burned with the intent of killing all the rest of the live trees. We have some pre treatment transects established where, no surprise, we found no BBWO. When the burning is done, hopefully next spring, we'll see what kind of response we get.

I think it would be interesting to have a discussion about salvage and BBWO as well as implications for pine marten and lynx at the RTA.

The Stevensille CBC is Saturday, January 2. We could use your expert birding skills. Happy Holidays

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I did a fairly extensive analysis of effects on BBWO (& other species and habitats) for the 1994 Little Wolf Fire salvage and subsequent spruce beetle control proposals. I too had a hard time avoiding the "trend to federal listing" call. Ended up running several scenarios through a simple population growth index model and left quite a bit of the 10,000+ acre fire area unsalvaged. I mailed and faxed several documents on this to Mike Hillis--are you working with him on this? I don't think we can say that habitat other than early post-fire can provide for the population-dynamic needs of a species like BBWO. I have records of BBWO nesting in a mountain pine beetle-infested lodgepole stand, yet overall Hutto says/writes unburned forest COULD be a sink. I'd love to come to a workshop on this, but am not planning on attending the RTA. Let me know if I can help!

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